Sandy Hook, New Jersey, 16th. Barnegat City, New Jersey, 16th. Fort Macon, North Carolina, 16th.

Hatteras, North Carolina, 10th, 14th, 16th.

New River Inlet, North Carolina, 1st, 2d, 9th, 10th, 16th, 17th.

Kitty Hawk, North Carolina, 14th, unusually high.

Philadelphia, Pennsylvania: the tide in the river on the 16th was the highest known since February, 1876, and in many places the water overflowed the wharves.

LOW TIDES.

Eastport, Maine, 2d, 3d, 24th. Indianola, Texas, 15th.

TEMPERATURE OF WATER.

The following table shows the highest and lowest temperatures of water at the several stations; the monthly ranges of water temperature; the average depth at which the observations were made; and the mean temperature of the air:

At Block Island, Rhode Island, observations were made from 11th to 28th, only; at New Haven, Connecticut, the harbor was frozen from 22d to 28th, during which time no observations were made; at Chincoteague, Virginia, observations were interrupted by ice from 21st to 24th; at Marquette, Michigan, no record was made, the signal office having been burned.

Temperature of water for February, 1885.

Max. Min. tenths. station	Station.	Temperature at bottom.		Range,	Average depth, feet and		Mean tempera- ture of the
Atlantic City, New Jersey 35.8 29.5 6.0 2 7 25 Alpena, Michigan † 35.1 31.9 3.2 9 8 28. Baltimore, Maryland 35.1 31.9 3.2 9 8 28. Block Island, Rhode Island* 34.0 49.0 5.0 7 0 24 Baltimore, Maryland 35.1 31.9 3.2 9 8 28. Buffalo, New York † 21 9 20. Buffalo, New York † 22 1 5.0 17 2 45 Cedar Keys, Florida 02.3 53.4 8.9 9 6 54. Charleston, South Carolina 57.0 45.1 11.9 40 8 47. Chiacego, Illinois† 57.0 45.1 11.9 40 8 47. Chiacego, Illinois† 40.5 30.1 10.4 5 6 31. Cleveland, Ohio† 50.1 10.4 10.1 10.0 10.0 10.0 10.0 10.0 1		Max.	Min.				air at station.
Alpena, Michigan † Augusta, Georgia Baltimore, Maryland Block Island, Rhode Island* Block Island, Review			0	0			
Alpena, Michigan † Augusta, Georgia Baltimore, Maryland Block Island, Rhode Island* Block Island, Review	Atlantic City New Jersey	35.8	20.5	6.0	2	7	25.7
Augusta, Georgia Baltimore, Maryland Baltimore, Maryland Boston, Massachusetts Block Island, Rhode Island* 34.0 20.0 30.0 28.6 1.4 21 9 20. 22. 23.0 28.6 1.4 21 9 20. 24. 25.0 26.6 1.4 21 9 20. 26.6 27 20. 26.6 27 20. 27 20. 28.6 28.6 29 20. 28.6 28.6 29 20. 28.6 28.6 29 20. 28.6 28.6 29 20. 28.6 28.6 29 20. 28.6 28.6 29 20. 28.6 28.6 29 20. 28.6 28.6 29 20. 28.6 28.7 29 20. 28.6 28.9 20. 28.6 28.9 20. 28.6 28.9 29 20. 28.6 28.9 20. 28.6 29 20. 28.6 21.4 21 21 20. 20. 20. 20. 20. 20. 20. 20. 20. 20.	Albene Michigant	0,					
Baltimore, Maryland	Augusta Georgia	59.7	36.6	13.1	12	0	42.8
Block Island, Rhode Island*	Baltimore, Maryland				q	8	28.5
Boston, Massachusette 30.0 28.6 1.4 21 9 20	Block Island, Rhode Island*					0	24.3
Buffalo, New York †			28.6			Q	20.5
Canby, Fort, Washington Territory							
Charleston South Carolina 57.0 45.1 11.9 40 8 47	Canby, Fort, Washington Territory	47.1	42.I	5.0	17	2	45.7
Charleston South Carolina 57.0 45.1 11.9 40 8 47	Cedar Keva Florida			8.9			54.9
Chicago, Illinois† Chicago, Virginis * 40.5 30.1 10.4 5 6 31. Cleveland, Ohio† Detroit, Michigan† Detroit, Michigan† Eastport, Maine Eastport, Michigan† Eastp	Charleston, South Carolina					8	47.5
Chincoteague, Virginia *	Chicago Illinoist				44444		77.
Cleveland Chio †	Chiucotesque, Virginia *	40.5	30.1	10.4	5	6	31.1
Detroit, Michigan† 35.3 19.8 15.7 9 8 28 28 28 28 28 28 2			0				3
Delaware Breakwater, Delaware 35.3 19.8 15.7 9 8 28 28 28 28 28 28 2	Detroit Michigan t						
Duluth, Minnesota	Delaware Breakwater, Delaware	35.3	19.8	15.7	a	8	28.
Eastport, Maine	Duluth Minnesota +			-5-7			
Secanaba Michigan	Eastnort Maine	35.3	32.5	2.8	IA	7	18.
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· Record incomplete-see text.

† Frozen the entire month.

VERIFICATIONS.

INDICATIONS.

The detailed comparison of the tri-daily indications for February, 1885, with the telegraphic reports for the succeeding width and at its highest point about 8° above the horizon; the twenty-four hours, shows the general average percentage of display continued until the early morning of the 6th. From verifications to be 82.79 per cent. The percentages for the four 12.05 a. m. until daylight of the 12th a pale auroral light of elements are: Weather, 85.08; direction of the wind, 77.92; temperature, 82.19; barometer, 88.88 per cent. By geographical districts, they are: For New England, 83.93; middle At- 8.40 p. m. consisting of a diffuse light without streamers; it lantic states, 83.89; south Atlantic states, 83.25; eastern disappeared at 10.30 p. m. Gulf states, 84.18; western Gulf states, 84.77; lower lake Grand Haven, Michigan, 5th: a faint aurora was visible

region, 83.72; upper lake region, 81.87; Ohio valley and Tennessee, 82.76; upper Mississippi valley, 83.19; Missouri valley, 74.83; north Pacific coast region, 96.00; middle Pacific coast region, 76.92; south Pacific coast region, 97.22. There were twenty omissions to predict out of 3,011, or 0.66 per cent. Of the 2,991 predictions that have been made, eighty-four, or 2.81 per cent., are considered to have entirely failed; one hundred and twenty-nine, or 4.31 per cent., were one-fourth verified; four hundred and twenty-seven, or 14.28 per cent., were one-half verified; four hundred and eighty-two, or 16.11 per cent., were three-fourths verified; 1,869, or 62.49 per cent., were fully verified, so far as can be ascertained from the tridaily reports.

CAUTIONARY SIGNALS.

During February, 1885, one hundred and sixty cautionary signals were ordered. Of these, one hundred and forty-four, or 93.75 per cent., were justified by winds of twenty-five miles or more per hour at or within one hundred miles of the station. Seventy-seven cautionary off-shore signals were ordered, all of which were justified as to direction, and seventy, or 90.90 per cent., were justified as to velocity. Two hundred and thirty-seven signals of all kinds were ordered, two hundred and twenty, or 92.83 per cent., being fully justified. These do not include signals ordered at display stations where the velocity of the wind is only estimated. Of the above cautionary off-shore signals, fifty-four were changed from cautionary signals. Six signals were ordered late. In eighty-four cases winds of twenty-five miles or more per hour were reported for which no signals were ordered.

COLD-WAVE SIGNALS.

During February, 1885, there were one hundred and fortyfive cold-wave signals ordered, of which number one hundred and twenty-nine, or 89.0 per cent. were justified.

RAILWAY WEATHER SIGNALS.

The following is from the February, 1885, report of the "Alabama Weather Service," under direction of Professor P. H. Mell. ir.:

The predictions for the month of February telegraphed by General Hazen,

the Chief Signal Officer, were as follows:

Local rains.—5th, 8th, 9th, 12th, 13th, 14th, 15th, 18th, 24th, 25th.

Fair weather.—1st, 2d, 3d, 4th, 6th, 7th, 10th, 11th, 16th, 17th, 19th, 20th,

21st, 22d, 23d, 26th, 27th, 28th.

Lower temperature.—1st, 2d, 5th, 6th, 9th, 10th, 13th, 16th, 18th, 20th.

Higher temperature.—3d, 4th, 7th, 8th, 12th, 14th, 15th, 17th, 22d, 23d, 24th, 26th, 27th, 28th.

Stationary temperature.—11th, 19th, 21st, 25th. Cold wave signals ordered 8th, 9th, 16th.

A careful examination of the meteorological reports from all quarters of the state shows the verification of the weather predictions to be 92 per cent. and of the temperature 94 per cent.

ATMOSPHERIC ELECTRICITY.

AURORAS.

During February, 1885, there occurred two auroral displays which were widely observed in the northern districts; these were observed during the nights of the 5-6th and 11-12th, and were reported by numerous stations from New England westward to Montana. The following reports relating to the displays of February have been received:

Captain Irving, commanding the s. s. "Republic," reports having observed an aurora on the 5th in latitude N. 49°, longitude W. 34°.

Point Judith, Rhode Island, 5th: at 7.05 p. m. an auroral arch covered 70° of the northern horizon; it was about 5° in straw color, with occasional beams, was observed.

Alpena, Michigan, 5th: an auroral light was first noticed at